

REMARKS

A Request for Continued Examination has been submitted concurrently herewith. Accordingly, Applicants respectfully request the foregoing amendment be entered, and that further prosecution of this application be conducted based thereon.

The language and format of the Abstract has been addressed. Likewise, the status of the applications referenced at page 1 of the disclosure has been updated.

The rejections of Claims 20-23 and 26-28 under 35 U.S.C. 103(a) as being unpatentable over Amendt et al. in view of Huitema, and of Claim 24 and 25 as being unpatentable over Amendt et al. in view of Huitema and Ota et al. are traversed, and reconsideration thereof is respectfully requested. Applicants respectfully submit that all the claims of record in this application, as amended in relevant part, distinguish over the cited references.

The present invention is directed to a control system for an automotive vehicle having a clutch mounted between an engine and gear drive transmission (automatic MT transmission). Because the automatic MT transmission has torque converter, no creep torque is generated. Accordingly, a control system generates a creep torque by slipping the clutch when a brake and an accelerator are released.

When, as applicants recognized, the duration of the slipping-engagement state of the clutch is too long, however the clutch temperature increases and its

surface is undesirably deteriorated so that the starting performance will be lost. To solve the problem, applicants invented a creep control in which it is decided to discontinue creep torque generation when a vehicle running state is detected to be a predetermined state (e.g., when vehicle speed is equal to or higher than a specified value, or at least one of the transmission torque of the clutch, hydraulic pressure, position and an electric current of the clutch have reached specified length of time), and when it has been decided that creep torque generation should be discontinued during a creeping state, the slipping engagement of the clutch is released to discontinue the generation of creep torque. Accordingly, because the creep torque is discontinued when the vehicle running state reached the desired state to generate a sufficient creep torque, the time of slipping engagement of the clutch is made as short as possible, and thereby the temperature increase and deterioration of the clutch caused by continuance of slips can be effectively avoided.

By way of contrast, the Amendt document teaches that a transmissible clutch torque can be reduced to a predeterminable value if a crawling movement is terminated in response to the engagement of a brake, which is the end of a creeping state. The Amendt patent does not teach or even suggest that the creep torque generating means releases the slipping engagement of the clutch during the creep state. That is, the clutch torque is reduced (even reduced to zero) only when the creeping state is at an end in the Amendt patent, while the clutch

slipping engagement is released during the creeping state in the present invention.


The Huitema patent discloses only a transmission control and gear shifting control. The Ota et al. patent discloses only a traction control system for a four-wheeled drive vehicle wherein the slipping of wheel is detected during operation of the accelerator pedal and braking is controlled as the traction control. Neither patent teaches or even suggests that the friction clutch is disengaged to discontinue the generation of creeping torque.

Accordingly early and favorable action is earnestly solicited.

If there are any questions regarding this amendment or the application in general, a telephone call to the undersigned would be appreciated since this should expedite the prosecution of the application for all concerned.

If necessary to effect a timely response, this paper should be considered as a petition for an Extension of Time sufficient to effect a timely response, and please charge any deficiency in fees or credit any overpayments to Deposit Account No. 05-1323 (Docket #056203.49699C1).

Respectfully submitted,



James F. McKeown
Registration No. 25,406

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CROWELL & MORING LLP
Intellectual Property Group
P.O. Box 14300
Washington, DC 20044-4300
Telephone No.: (202) 624-2500
Facsimile No.: (202) 628-8844
JFM:mtm